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April 9, 2007


Atty Docket No. :	JCLA10514
Appl. No. :	10/658,174
Filing Date :	September, 08, 2003
Pages :	Cover + 17

BY FACSIMILE ONLY

Fax No. :	571-273-8300
Attention :	EXAMINER : SHERMAN, STEPHEN G.
Group Unit :	2674
From :	Jiawei Huang, Reg. No. 43,330
MESSAGE :	Enclosed herewith is a Transmittal Sheet with Appeal Brief in 17 pages.

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PATENT
Docket No. JCLA10514
page 1

UNITED STATE PATENT AND TRADEMARK OFFICE

In re application of :
Application No. : 10/658,174
Filed : September 08,2003
For : DOUBLE WAVEFORM METHOD FOR DRIVING SIGNALS
THROUGH A TRANSMISSION LINE
Examiner : SHERMAN, STEPHEN G.
Art Unit : 2674

TRANSMITTAL OF APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

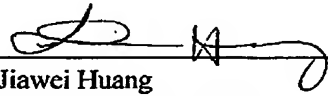
Transmitted herewith is an Appeal Brief in (16) pages, including (4) pages of Claims
Appendix and (1) page of Evidence Appendix.

(X) An extension of time to respond for (1) month(s) is hereby requested.

Time Extension Fee:

- (X) One month (\$120 for Large Entity)
() Two months (\$450 for Large Entity)
() Three months (\$1020 for Large Entity)

Commissioner is authorized to charge the filing an Appeal Brief (\$500) and the one-month
time extension (\$120) in the amount of \$ 620 or any other fees as required in connection with
the filing of this paper to Deposit Account No. 50-0710 (Order No. JCLA10514).


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

EX PARTE: Evan Cho

Application for Patent

Filed: September 08, 2003

Serial No. 10/658,174

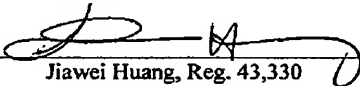
FOR:

DOUBLE WAVEFORM METHOD FOR DRIVING
SIGNALS THROUGH A TRANSMISSION LINE

APPEAL BRIEF

CERTIFICATE OF MAILING

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Attorneys for Applicants

04/10/2007 TL0111 00000057 500710 10658174

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Appeal Brief

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I. Real party in interest

The real party in interest is Novatek Microelectronic Corp., the assignee of record.

II. Related appeals and interferences

There are no related appeals and/or interferences.

III. Status of the claims

A total of 23 claims were presented during prosecution of this application. Claims 3, 10, and 15-21 have been cancelled. The Applicant appeals the rejected claims 1, 2, 4-9, 11-14, 22 and 23.

IV. Status of amendments

There is no amendment made after the Final Office Action.

V. Summary of claimed subject matter

The claimed subject matter of the present invention involved in the appeal is directed to a double waveform method for driving a voltage signal through a transmission line with an initial voltage. First, a first voltage is applied to the transmission line and maintained for a first period. Thereafter, a second voltage is applied to the transmission line and maintained for a second period inside the transmission line. Finally, a final voltage is applied to the transmission line. The first voltage and the second voltage must not be equal to the final voltage. Moreover, the first voltage must not be equal to the initial voltage and the second voltage must not be equal to the final voltage. In addition, the first maintenance period for the first voltage and the second maintenance period for the second voltage must not be zero

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VI. Grounds of rejection to be reviewed on appeal

Should Scheffer be considered "analogues" in rejecting the claimed invention under 35 U.S.C. 103?

Did the cited references when considered as a whole teach each and every limitation of the claimed invention?

Was the proposed modification of Koshoubu by Scheffer properly made with respect to rules as set forth in MPEP §2143.01?

VII. Arguments

A. The related law

"In resolving the question of obviousness under 35 U.S.C. 103, we presume full knowledge by the inventor of all the prior art in the field of his endeavor. However, with regard to prior art outside the field of his endeavor, we only presume knowledge from those arts reasonably pertinent to the particular problem with which the inventor was involved. The rationale behind this rule precluding rejections based on combination of teachings of references from nonanalogous arts is the realization that an inventor could not possibly be aware of every teaching in every art" *In re Wood*, 599 F. 2d 1032, 202 USPQ 171, 174 (C.C.P.A 1979)

A reference is reasonably pertinent if ... it is one which , because of the matter with which it deals, logically would have commended itself to the inventor's attention in considering his problem ... If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem ... If it is directed to a different purpose, the inventor would accordingly have has less motivation or occasion to consider it" *In re Clay*, 966 F.2d 656, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992)

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. Second, there must be

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suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must "be found in the prior art, and not be based on applicant's disclosure." MPEP § 2143, 8th ed., February 2003.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1123 (Fed. Cir. 1984)

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)

B. *Claims 1, 2, 4, 8, 9, 11, 22, and 23 were improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Koshoubo et al. (US 5,966,111) in view of Scheffer et al. '495.*

1. The rejection

Applicant's arguments filed September 1st, 2006 have discussed the patentability of independent claims 1 and 8. In Office Action mailed on 10/10/2006, Claims 1, 2, 4, 8, 9, 11, 22, and 23 were improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Koshoubo et al. (US 5,966,111, Koshoubo hereinafter) in view of Scheffer et al. '495(Scheffer hereinafter). In response thereto submitted Nov. 10, 2006, Applicants had traversed the rejections once again and clarified the patentability thereof for at least the following reasons:

- 1). "the Scheffer reference is not reasonably pertinent to the particular problem with which Applicants was concerned";

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2). "the Scheffer still fails to teach or suggest the feature of 'finding a first voltage, a second voltage, a first voltage maintenance period and a second voltage maintenance period according to the initial voltage and the final voltage' as claimed in claim 1, and the feature of 'first period of time and the second period time are configured according to an initial voltage of the signal and a final voltage which is desired to be obtained on the transmission line' as claimed in amended claim 8. More particularly, the Scheffer still fails to teach or suggest the feature of considering the final voltage which is desired to be obtained on the transmission line to determine the first voltage, second voltage, first voltage maintenance period and second voltage maintenance period in the present invention"; and

3). "the proposed modification in the Office Action has basically destroyed the principle of operation of the Koshoubu".

However, in Advisory Action mailed Nov. 29, 2006, the Examiner insisted his rejections to the claimed invention and alleged that "the examiner disagrees with all of the applicant's arguments".

2. Discussion of the Examiner's Opinion

Should Scheffer be considered "analogues" in rejecting the claimed invention under 35 U.S.C. 103?

- In the Advisory Action, the Examiner contended "First of all, with respect to the applicant's argument that the Scheffer reference is not pertinent to the problem solved, the examiner again makes it clear that the CLAIMED invention only states of applying voltages to a TRANSMISSION LINE. The examiner could find any reference, regardless of being in the display field, that teaches of applying voltages to any kind of transmission line and apply it as teaching the claimed invention regardless of the reference being pertinent to the particular problem".

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- With respect to the above statement made by the Examiner, Applicants have remarked in response to Final Office Action dated Nov. 10, 2006, that "Applicants submit that in accordance with the above cited case law, there is never required that cited references must be in the field of the claims. What is required is the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. Applicants submit that in accordance with the instruction as set forth in MPEP §608.01(c), 'A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, ... if properly written to set out the exact nature, operation, and purpose of the invention, will be of material assistance in aiding ready understanding of the patent in future searches', and in accordance with the instruction as set forth in 37CFR 1.75, 'where the nature of the case admits, as in the case of an improvement, any independent claims should contain in the following order: (1) A preamble comprising a general description of all the elements or steps of the claimed combination which are conventional or known, (2) A phrase such as wherein the improvement comprises, and (3) Those elements, steps, and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion'. As such, Applicant's endeavor, purpose of the invention, or the problem the invention solves, are not required to be presented in the claims. On the contrary, such items are instructed to be illustrated in the disclosure including the Brief Summary of the Invention section. Accordingly, the specification should be considered when determining whether or not the cited references are in analogous art". In this manner, the Examiner could not "find any reference, regardless of being in the display field, that teaches of applying voltages to any kind of transmission line and apply it as teaching the claimed invention regardless of the reference being pertinent to the particular problem" as alleged by himself.

- Further, the Examiner addressing this ground contended: "Nevertheless, the examiner used two references within the field of displays, which are in the field of the applicant's endeavor, therefore the references DO NOT NEED TO SOLVE THE SAME PROBLEM because as stated in the MPEP 2141.01(a): 'the reference must EITHER be in the field of APPLICANT'S ENDEAVOR OR, if not, THEN be reasonably pertinent to the particular problem with which the inventor was concerned'".

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- With respect to this statement, Applicants believe that the Examiner had erroneously concluded that the claimed invention and the Scheffer reference are in the same field of applicant's endeavor simply because both of them are related to displays.
- The Federal Circuit has contended in *In re Clay* 966 F. 2d 656 (Fed. Cir. 1992):

Sydansk cannot be considered to be within Clay's field of endeavor merely because both relate to the petroleum industry ... Clay's field of endeavor is the storage of refined liquid hydrocarbons. The field of endeavor of Sydansk's invention, on the other hand, is the extraction of crude petroleum. The board clearly erred in considering Sydansk to be within the same field of endeavor as Clay's.

- In referencing the above comment given by the Federal Circuit in *In re Clay*, Appellants believe that the two references within the field of displays used by the Examiner are not sufficient evidence showing they are in the field of the applicant's endeavor.
- In determining the whether the Scheffer reference is in the field of the applicant's endeavor, it should be noted that applicant's endeavor is to provide a method for driving signals through a transmission line capable of increasing transmission speed while maintaining waveform stability and accuracy. However, the Scheffer reference is pertinent to "Method and apparatus for providing gray level addressing for passive liquid crystal display panels having overlapping row and column electrodes defining pixels". As such, it is apparent that Scheffer is no in the field of the applicant's endeavor.
- Accordingly, Appellants submit that the Scheffer reference is nonanalogous art, and thus not a proper prior art reference for making *prima facie* obvious rejection under 35 U.S.C. 103.

Did the cited references when considered as a whole teach each and every limitation of the claimed invention?

- In the Advisory Action, addressing this ground, the Examiner contended: "With respect to the applicant's second argument that 'the final voltage could be possibly found according to above-mentioned values, while those values could not be found according to

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the final voltage to which they correspond', the examiner asserts that in Scheffer the final voltage desired **IS KNOWN**, and that the amount of time with which the voltages of S+D and S-D are applied determines the final voltage, therefore, for example if the final value that is to be attained is .5 and the voltage level of S+D=1 and S-D=0, then if for half of the time S+D is applied and half of the time S-D is applied then the final value will be .5, meaning that the process does work both ways where the final voltage is used to determine the length of time the voltages are applied and the voltages applied also determine the final voltage.

- Appellants submit as taught by Scheffer "even though those values, i.e., S+D, S-D, f, 1-f are interpreted as corresponding to the gray level voltage, i.e. final voltage, according to Scheffer, the final voltage can be obtained from those values, while such a process is not reversible" (see response submitted on Nov. 11, 2006). Appellants further submit that the Examiner's content based on his own assumption without substantial evidence found in the cited references testifying that such an assumed process had really been taught is not eligible for teachings in a *prima facie* obvious rejection against the claimed invention.

Was the proposed modification of Koshoubu by Scheffer properly made with respect to rules as set forth in MPEP §2143.01?

- In the Advisory Action, addressing this ground, the Examiner contended: "when the applicant states that the principle operation has been destroyed, the applicant attacks each of the references **INDIVIDUALLY** and paid no attention to **HOW** the references are combined. Both references teach of applying voltages to flat panel displays, and the examiner only used what the Scheffer reference is teaching to be applied to the Koshoubu reference. As stated previously, when combined, the selection period taught by Koshoubu may be made to stay the same while the periods with which the two pulses are applied can be made to change within the selection period by using the teaching of Scheffer, therefore allowing the device to maintain its principle operation"
- Appellants hereby allege that we do not mean to attack the references **INDIVIDUALLY**. Appellants only required the Examiner to pay equal attention on the comments following the *In re Keller* case law as presented in MPEP §2145 III, that is "[I]t is not necessary that the inventions of the references be physically combinable to

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render obvious the invention under review ..., [H]owever, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP §2143.01".

- With respect to the Examiner's comment that "when combined, the selection period taught by Koshoubu may be made to stay the same", Appellants submit that whatever the proposed modification is, Koshoubu could not be modified to have the selection period to stay the same, because such a modification apparently change the principle of operation of Koshoubu, which is the primary reference cited hereby. As provided previously, Koshoubu teaches his principle of operation as: "On this understanding, the present inventors studied the relationship between the variation of the transmission cycle of the picture data for a picture frame and the blanking period. From the result of this study, it was found that the duration of the holding period can be made constant by adjusting the duration of the blanking period corresponding to the variation in the transmission cycle, which is to be determined by actually measuring the transmission cycle of the picture data concerned" (Summary of the invention section of Koshoubu). Therefore, along with the principle of operation taught by Koshoubu, the duration of the blanking period must be adjusted, which is proposed to be changed to stay the same by the Examiner.
- As such, Appellants submit that above two cited references would not have been motivated to be combined or modified by those of ordinary skill in the art, as proposed by the Examiner.

- C. *Claims 5-7, and 12-14 were improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Koshoubu et al. (US 5,966,111) in view of Scheffer et al. '495, further in view of Chang et al. (US 6,611,247).*

Appellants submit that claims 5-7 and 12-14 respectively depend on allowable independent claims 1 and 8, and thus should also be allowable.

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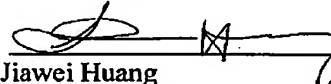
D. Conclusion

As noted, the Examiner has not properly applied U.S.C. § 103 in his rejections of the claims at issue. Accordingly, Applicants believe that the rejections under U.S.C. § 103 to be in error, and respectfully request the Board of Appeals and interferences to reverse the Examiner's rejections of the claims on appeal.

Date: 4/9/2007

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Respectfully submitted,
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VIII. Claims appendix

CLAIMS ON APPEAL:

Claims 1 (previously presented) A double waveform method for driving a transmission line originally at an initial voltage to a final voltage, the double waveform method comprising:

finding a first voltage, a second voltage, a first voltage maintenance period and a second voltage maintenance period according to the initial voltage and the final voltage;

applying the first voltage on the transmission line for a time period equal to the first voltage maintenance period; and

applying the second voltage on the transmission line for a time period equal to the second voltage maintenance period; and

applying the final voltage on the transmission line.

Claims 2 (previously presented) The method of claim 1, wherein if the final voltage is higher than the initial voltage, the first voltage is configured to be higher than the final voltage and the second voltage is lower than the final voltage, and if the final voltage is lower than the initial voltage, the first voltage is configured to be lower than the final voltage and the second voltage is higher than the final voltage.

Claims 3 (canceled)

Claim 4 (previously presented) The method of claim 1, wherein the transmission line is the transmission line on a flat display panel.

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Claim 5 (previously presented) The method of claim 1, wherein a buffer unit is deployed to drive the transmission line.

Claim 6 (original) The method of claim 5, wherein the buffer unit is coupled to a digital-to-analogue converter.

Claim 7 (original) The method of claim 6, wherein the digital-to-analogue converter is coupled to a waveform encoder.

Claim 8 (previously presented) A double waveform method for driving a signal through a transmission line, comprising:

putting a first voltage on the transmission line for a first period of time;

putting a second voltage on the transmission line for a second period of time, wherein the first period of time and the second period of time are configured according to an initial voltage of the signal and a final voltage which is desired to be obtained on the transmission line; and

putting a final voltage on the transmission line.

Claim 9 (previously presented) The method of claim 8, wherein if the final voltage is higher than the initial voltage, the first voltage is configured to be higher than the final voltage and the second voltage is lower than the final voltage, and if the final voltage is lower than the initial voltage, the first voltage is configured to be lower than the final voltage and the second voltage is higher than the final voltage.

Claim 10 (canceled)

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Claim 11 (previously presented) The method of claim 8, wherein the transmission line is the transmission lines on a flat display panel.

Claim 12 (original) The method of claim 8, wherein a buffer unit can be deployed to drive the transmission line.

Claim 13 (original) The method of claim 12, wherein the buffer unit is coupled to a digital-to-analogue converter.

Claim 14 (original) The method of claim 13, wherein the digital-to-analogue converter is coupled to a waveform encoder.

Claims 15-21 (canceled)

Claim 22 (previously presented) The method of claim 1, wherein a plurality of resistance-capacitance (RC) coupling units are serially interposed on the transmission line, w herein during the first voltage maintenance period, the first voltage is applied on the transmission line and the serially interposed RC coupling units are sequentially changing, and during the second voltage maintenance period, the second voltage is applied on the transmission line and the serially interposed RC coupling units are sequentially discharging.

Claim 23 (previously presented) The method of claim 8, wherein a plurality of resistance-capacitance (RC) coupling units are serially interposed on the transmission line, w herein during the first voltage maintenance period, the first voltage is applied on the

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transmission line and the serially interposed RC coupling units are sequentially changing, and during the second voltage maintenance period, the second voltage is applied on the transmission line and the serially interposed RC coupling units are sequentially discharging.

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IX. Evidence appendix

There is no evidence submitted pursuant to § 1.130, 1.131, or 1.132 of this title or of any other evidence entered by the examiner and relied upon by appellant in the appeal, along with a statement setting forth where in the record that evidence was entered in the record by the examiner.

X. Related proceedings appendix

There are no decisions rendered by a court or the Board in the proceeding identified in the Related Appeals and Interferences section of the brief.